

REMARKS/ARGUMENTS

Claims 1-36 were presented for examination and are pending in this application. In an Official Office Action dated June 12, 2007, claims 1-36 were rejected. The Applicant thanks the Examiner for his consideration and addresses the Examiner's comments concerning the claims pending in this application below.

Applicant herein amends claims 1, 3, 5, 13, 15, 17, 25 and 27 and respectfully traverses the Examiner's prior rejections. Claims 4, 6, 8, 12, 16, 18-20, 28, 32 and 36 are cancelled without prejudice and no new claims are added. These changes are believed not to introduce new matter, and their entry is respectfully requested. The claims have been amended to expedite the prosecution and issuance of the application. In making this amendment, the Applicant has not and is not narrowing the scope of the protection to which the Applicant considers the claimed invention to be entitled and does not concede, directly or by implication, that the subject matter of such claims was in fact disclosed or taught by the cited prior art. Rather, the Applicant reserves the right to pursue such protection at a later point in time and merely seeks to pursue protection for the subject matter presented in this submission.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding rejections and withdraw them.

Rejection of Claims

Claims 1, 2, 5-7, 9-14, 17-19, and 21-24 were rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 5,673,204 by Klingelhofer ("Klingelhofer"). Applicant respectfully traverses these rejections in light of the following remarks.

MPEP §2131 provides:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a

single prior art reference.” *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir.1987). “The identical invention must be shown in as complete detail as contained in the claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

The claims as currently amended recite features lacking in the applied references. For example, independent claims 1, 13, and 25 recite in varying language and among other things, “a processor element associated with said at least one memory module slot for providing a direct data connection between an external device coupled thereto and the memory module slot enabling data exchange directly between the external device and the memory module bus, wherein the processor element can be accessed at memory module bus speeds.”

The present invention provides a processor element for a memory module bus that enables a direct data connection between an external device and the memory module bus at speeds comparable to that of the bus speed of the microprocessor. Klingelhofer fails to provide such a direct high speed data connection.

The IOSIMM of Figure 1 of Klingelhofer shows a data accelerator coupled to VRAM which is in turn coupled to a SIMMBUS. According to Klingelhofer, VRAM is a necessary component for communication to the video adapter (external device). The present invention removes this limitation. The aspect of the present invention can be appreciated by referring to paragraph [0028-0029] of the specification. Here the Applicant points out that the processor element of the present invention can accept normal memory read and write commands at speeds comparable to that of the microprocessor. This eliminates the need for a speed matching “buffer”. The VRAM of Klingelhofer provides this function and, as is taught by Klingelhofer, is a mandatory component to enable such communication. Thus Klingelhofer teaches

that the data accelerator (DX) and the processor element of the present invention are distinct entities and cannot be equated to each other.

As stated in Col. 3, lines 45-53 of Klingelhofer, "while the IOSIMM 120 VRAM is directly coupled to data accelerator (DX) and then to lead 140, DRAM in DSIMM 70, 70' must be coupled via SIMMBUS 60 through the IOSIMM 120 and then into lead 140, for communication with the video adapter 10." (emphasis added) Klingelhofer discloses a component (IOSIMM) possessing an accelerator (DX) coupled to VRAM that is used as a communications port to convert data for submission to a video adapter. The IOSIMM of Klingelhofer does not provide for the direct transfer of data from the memory module bus to the external device at memory module bus speeds comparable to that of the microprocessor. As discussed in the specification of the present invention, this realization of access speed to the memory module bus is a significant advantage over previous data exchange methodology. The fact that Klingelhofer needs a buffer to be able to convey data to the memory module bus and to receive data from the bus is illustrative of the distinctions between Klingelhofer and the present invention. Reconsideration is respectfully requested.

Furthermore and with respect to claims 2 and 14, the SIMMBUS of Klingelhofer is simply a memory bus and the memory bus by itself fails to provide any mechanism or link by which to signal the memory controller that data on the bus is available. As stated in Klingelhofer, data must be in the VRAM to be operated upon. See Klingelhofer Col. 5, lines 27-33. Col. 8 lines 30-38 of Klingelhofer was cited as disclosing how the present invention informs the memory bus that data is available. However, a careful review of this section in conjunction with Figure 2, item 360 reveals that in Klingelhofer the transfer control is operative for data flowing from the memory bus via connection 140 to the FIFOs. The same cannot be said for data flowing from the FIFOs to the memory module bus. In that situation, data sits

on the buffer, VRAM, until the bus pulls it off. Thus Klingelhofer fails to read on the limitation recited in claim 2 and 14.


Claims 3, 4, 8, and 20 (and presumably claims 12 and 24) were rejected under 35 U.S.C. § 103(a) as being unpatentable over Klingelhofer in view of U.S. Patent No. 6,052,134 by Foster ("Foster"). Claims 25-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Klingelhofer in view of U.S. Patent No. 5,889,959 by Whittaker ("Whittaker") and Claim 36 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Klingelhofer in view of Whittaker as applied to claim 25 in view of Foster. All of the aforementioned claims depend from either independent claims 1, 13 or 25. As neither Foster nor Whittaker resolve the deficiencies of Klingelhofer noted above, these dependent claims are too deemed patentable. Reconsideration is requested.

In view of all of the above, the claims are now believed to be allowable and the case in condition for allowance which action is respectfully requested. Should the Examiner be of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is requested to contact Applicant's attorney at the telephone number listed below.

No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

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